The Search for *Utricularia ochroleuca* in Western North America

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Over the past two decades I have searched for the presence of this elusive species throughout the western United States and Canada. Initially, my only information came from Ceska & Bell (1973) who documented its current presence in the Oregon Cascade Mountains and its historical presence in Washington where it was initially classified as *U. occidentalis*. Additional information would later trickle in to support at least one extant Oregon site, but my inquiries and travel have failed to turn up much support for the Washington venues.

Using the site in the Oregon Cascades as a starting point, I set out in the late 1980s to expand the known range of this species. Having already seen the vast acres of bladderworts in the Bull Swamp just south of this area, I focused my initial searches from Clover Creek Road to Lake of the Woods, then northward to Four Mile Lake. After several visits to "The Bull" (as it came to be called) in sleet, hail, blazing sun or thunder and lightning, I was forced to conclude that it was home for a few leeches, many snakes, and thousands of mosquitos, but not for *U. ochroleuca*. However, this may not be the end of the story here; check back in five or ten years for an update.

After a few years in the Cascade fenlands my data, contacts, and wet spots were beginning to pile up. Places like Quaking Aspen Swamp, Torrey Lake, Cougar Reservoir, Detroit Lake, McKenzie Pass, Crater lake, and Government Camp beckoned with promise. And slowly over the years, Edith and I were able to visit many of these beautiful and occasionally obscure locations. Although many carnivorous plants were found along the way, we saw no new *U. ochroleuca* sites. Finally, in August of 1993, we found a new site in the shadow of the perennially snow-covered Mt. Hood (see Back Cover). Later in July 2000, another nearby site was documented. Certainly every wet spot in this area has potential for additional discoveries.

Final tally for Oregon after 15 years: 2 new sites.

My search for *U. ochroleuca* in California began with abundant early help from Joe Mazrimas, Larry Logoteta, Peter D'Amato, Rick Walker, Vernon Oswald, many local forest service botanists and native plant society field trip leaders. Also many silent hours were spent pouring over various carnivorous plant specimens in local herbaria in an effort to find some patterns of distribution, or perhaps some unique sites, that others may have overlooked. Armed with this new data, many good days were spent wandering through various wetlands from the southern Sierra Nevada to Goose Lake. But I must admit, I was not optimistic about finding this species in California. And I was painfully aware that one of our best former carnivorous plant sites had been radically altered by the creation of Lake Almanor in 1914. Several acres of *Drosera anglica* had been inundated, but there was still much water and ample shoreline remaining, and *Drosera rotundifolia* and *U. minor* had already been collected from the northern end of the lake.

We wandered northward from Highway 36 in June of 1994 with our frequent cohorts Bruce Bonar and Stephanie Changaris. Bald eagles and white pelicans flew overhead, and a lone sandhill crane stalked the cotton grass (*Eriophorum gracile*) plains. And down among the increasingly receding shoreline many bladderworts and water lilies (*Nuphar lutea* subsp. *polysepala*) were seen. But among the many yellow flowered emergents was one with a purple-green stem quite unlike all the rest: Stephanie and I stood transfixed by ankle deep mud and the unexpected *U. ochroleuca* plant! Göran Thor

would eventually help to confirm our identification.

Later, in July of 1998, Barry Meyers-Rice and Elizabeth Salvia would extend its range to nearby Willow Lake, which was already known to be home to *U. macrorhiza*, *U. minor*, and *U. intermedia*. In the smoke-filled September of 1999 (wildfires were all too common that year), I too plucked "something different" out of the muck of Willow Lake's northern shore; now this well-known site has four bladderwort species. This places the epicenter for *Utricularia* species richness in our state somewhere between Mt. Lassen and Sage Hen Creek near Truckee. If you wish to find more *U. ochroleuca* sites in Plumas County, you should probably start by following the water-course from Lake Almanor southward or visit the abundant wet spots in the Plumas-Lassen County neighborhood.

Final tally for California after 14 years: 2 new sites.

Elsewhere in the west, the apparent absence of *U. ochroleuca* in Washington persists. If only it were one-tenth as abundant as the *U. inflata* on Interstate 5, there would

California, Plumas County:

1. Northern end of Lake Almanor, east side of lake north of Hwy. 36 bridge, T29N-R7E-sw sec. 28, 1437 m., 24 June 1994, H. Rondeau 15169 (SJSU).
2. In shallows and on floating sphagnum mat at Willow Lake, 40°24'N, 121°21'W, 18 July 1998, B. Meyers-Rice & E. Salvia MR980701 (DAV).

Oregon, Lane County:

1. Gold Lake, approximately 3 km NE of Hwy 58 on FS Rd. 5897, RNA area is approximately 0.4 km SE of 5897, abundant in mossy area NW corner lake shore, no specimens found. Citations for this site: D.C. Ingram 2054, 24 August 1926 (Herb. of U. S. Forest Service), verified by A. Ceska in 1973; L. J. Dennis 2442, 2 September 1962; L. J. Dennis 2581, 24 July 1963 (verified by Ceska).

Oregon, Clackamas County:

1. Enid Lake, very small pond just N of Hwy. 26 & W of Government Camp access from Glacier View Rd.(#522 FS) 1300 m, no specimens found.
2. Multopor Fen, just SW of Government Camp in large meadow SW Hwy. 26, 45°17'21" N, 121°43'37" W, 1187 m., 23 July 2000, H. Rondeau, 195877 (OSC).

Washington, Klickitat County:

1. Various specimens collected in Falcon Valley, filed under *U. occidentalis* by W. Suksdorf between 1880 & 1923 at WS, WTU, CAN, & CAS.

Washington, Thurston County:

1. Also "...somewhere near Olympia...", Kincaid 24589 (WS) 1896 on sheet with *U. minor*.

British Columbia, Canada:

1. (Vancouver Island) Keta Lake, 51 km. from Woss, on Hwy. 19, 50°19'N, 126°02'W, 330 m., 22 July 1997 (as determined by A. Ceska) H. Rondeau 15172 (SJSU).
2. Blue Lakes complex: 59°50'N, 129°07'52"W, 906 m., on Hwy. 37 just south of Yukon Territory border; 23 July 1999, H. Rondeau 15175 (SJSU).
3. Liard River Hot Springs Provincial Park, 59°26'N, 126°06'W, Hwy 97, mile 496.5 AK Hwy, at south end of boardwalk, July 28 1997 H. Rondeau 15173, (SJSU).
4. Pools among *Larix laricina* islands at the right hand side of the boardwalk, where the boardwalk enters the forest. 59°25' 41.8"N, 126°05' 58.0"W (NAD 83) August 21, 2000, A. & O. Ceska 32187 (V).
5. "Tri-Lakes", S of Jack Fish Creek (~ 57 km. from Fort Nelson) & E. of Hwy. 97, 400 m., lakes appear to drain into Goguka Cr., 29 July 1997, H. Rondeau, 15174 (SJSU).

Table 1: All known collection sites for *U. ochroleuca* in California, Oregon, Washington, and British Columbia. (Herbarium citations are listed when available)

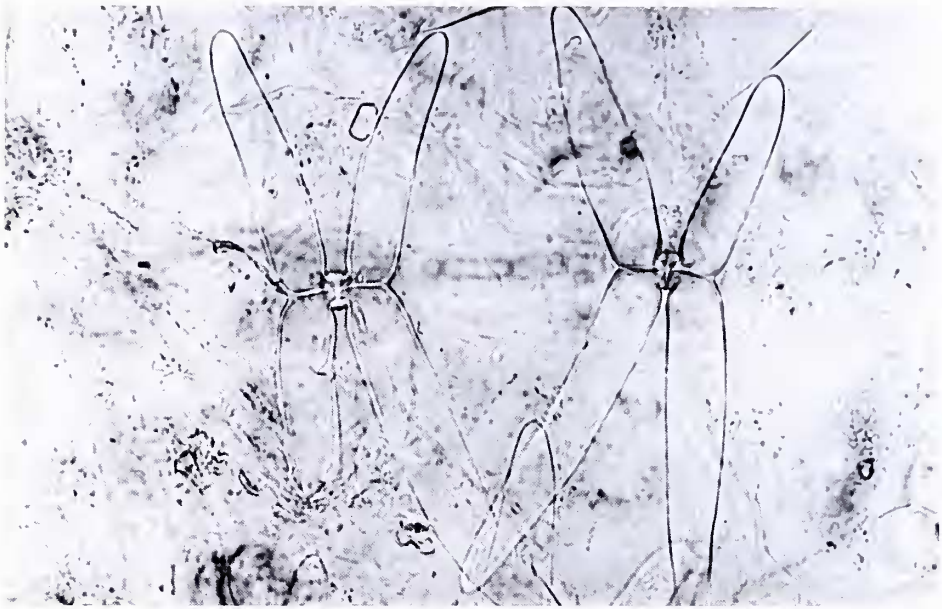

Figure 1: *U. ochroleuca* internal quadrifid glands, 200x. Photograph by Don Schnell.

be so much more to report. Perhaps next year the secrets of Wilhelm Suksdorf's collections (Webber, 1942) in southern Washington will be revealed, but for now his discoveries remain hidden in the shadows of Mt. Adams.

Of course, while all of the above was going on, Edith and I also continued to range increasingly farther north into that portion of the vast Canadian sponge known as British Columbia. About 4% of its land mass is said to be composed of various wetlands, but a quick trip across Vancouver Island on Highway 19 or northward from Prince Rupert on Highway 37 gives the distinct impression of an even greater abundance. But despite this extensive prospective habitat, *U. ochroleuca* was reported here only once and that was over fifty years ago (Porsild, 1951; Boivin, 1966). Curiously, my awareness of its presence here came about only by accident: a copy of the reference to the site (Porsild, 1951) came to me in the mail as a gift, and I had somehow forgotten that Ceska and Bell (1973) had refuted this identification by saying "...So far we have seen no specimen of *U. ochroleuca* from British Columbia."

And so it was in 1997 that I found myself at that previously reported site: Liard River Hot Springs Provincial Park in the middle of a sixteen day-8000 kilometer trip in

California, Plumas County:
1. Butt Valley Reservoir.

Oregon, central Cascade mountains area:
1. Three-Sisters Wilderness.
2. Many Lakes Research Natural Area.

Washington, Klickitat County:
1. Conboy National Wildlife Refuge, formerly referred to as "Falcon Valley".

British Columbia, Canada:
1. Log Cabin (59°46'N, 134°58'W; 1000 m.) between Carcross & Skagway, many small ponds along Hwy. 2.
2. Bonus Lake, Hwy. 37, N of Cranberry Jct. (55°36'N, 128°37'W).

Table 2: Probable sites for *U. ochroleuca* in California, Oregon, Washington, and British Columbia.

northern BC (I had already found a potential *U. ochroleuca* site on Vancouver Island). After a thorough reading of Reid's master's thesis (1978) on the vegetation and ecology of this area, it featured prominently on my itinerary. Surely any carnivorous plant enthusiast or botanist would want to wander among these warm (maximum temperatures ranging to nearly 54°C (130°F)) and abundant waters dotted with *Pinguicula cf. vulgaris* (not in flower), *Drosera anglica, Triglochin* spp., *Parnassia palustris*, *Oxycoccus microcarpus*, *Spiranthes romanzoffiana*, and *Orchis rotundifolia*. But Reid only noted *U. intermedia* and *U. vulgaris* (*macrorhiza*) on his species list; fortunately, I had seen Porsild's report from 1951.

A quick glance across the open waters revealed no yellow flags. Obviously if the bladderworts were not coming up to meet me, I would have to go down to find them. So into the muck I went, and after processing one or two handfuls of aquatic vegetation while dodging the resident alpha moose, *Voila*! *U. ochroleuca* was found once more at Liard River Hot Springs. But sadly, although I often speak of British Columbia as being a "beary" nice place to visit, about three weeks later two people from Texas would be killed by a black bear (*Ursus americanus*) very near this same spot. Certainly I was aware of the history of bear attacks here, but I had expected any threats would come from the larger and often less predictable grizzly bear (*Ursus horribilis*).

After this dalliance in the hot springs it was getting late, and I needed to push steadily southward. I planned to travel only as far as Muncho Lake Provincial Park to see a few stone sheep (*Ovis dalli*), more carnivorous plants and orchids, and then a bit further on to Fort Nelson—home of *Sarracenia purpurea* (a rarity this far west). However, chaos has intruded between my data and the realities of the landscape: the center of the town had been moved; the main road through town had been moved; most, if not all, of my reference points had been shifted or obliterated completely. Parker Lake, was said to be home to pitcher plants, but just where was it relative to Highway 97 now?

Slowly a miraculous vision replaced my consternation: the areas near Fort Nelson looked a lot like the New Jersey pine barrens. Ergo, one might find pitcher plants almost anywhere (later I learned from Randy Lamb that there was some truth to this). So dash the map, road, or whatever that wasn't where it was supposed to be—I was in full bush-whack-serendip mode.

If you have ever tried finding carnivorous plants this way, you can guess what happened. We saw no pitcher plants. However, we did find more *U. ochroleuca* sites several miles south of Fort Nelson. And this foray into the bush included the first time I have ever been threatened by a winged assailant while searching for carnivorous plants. Yes, I was repeatedly dive-bombed by a Bonaparte's gull that was intent upon keeping me away from its young chick in a nearby unnamed lake while I was searching for carnivorous plants.

Final tally for British Columbia after 11 years: 5 new sites.

Please join me again next time for another bladderwort excursion to the Blue Lakes drive-in in western British Columbia—perhaps the largest bog-lake complex in the entire province!

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Note from the editors: It is policy that articles in Carnivorous Plant Newsletter do not include precise location data for endangered species. While *Utricularia ochroleuca* is rare in the region H. Rondeau discusses, it is not a globally rare species so we do not feel the location data in this article represents a significant danger to the species. (BMR)

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